

DOCUMENT RESUME

ED 180 895

SO 012 275

AUTHOR Reeder, Sharon: And Others
TITLE The Influence of Social Networks on the Use of Health Services.
PUB DATE Aug 79
NOTE 34p.; Paper presented at Annual Meeting of the American Sociological Association (Boston, MA, August 1979)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Data Analysis; Family Role; *Health Needs; *Health Services; Helping Relationship; Intercommunication; *Interpersonal Relationship; *Medical Services; Motivation; *Networks; Peer Relationship; Research Methodology; Social Relations; *Social Science Research; Speeches; Use Studies

ABSTRACT

This paper describes the effect of a person's social network upon his or her use of health services. A "social network" consists of complex strands of affiliations radiating from an individual to his/her close associates (kin and friends) and then to the larger society beyond. Health services include hospitals, clinics, doctors' offices, and telephone contacts to those places. Approximately 1200 adults in the Los Angeles area were interviewed during 1976 concerning people they most often talked to about personal health problems. For each person mentioned by the respondents, information was obtained on their relationship to the respondent, age, proximity of residence, frequency of visits, degree of support usually given in problem situations, and whether the respondent would consult them about health matters. Extensive data analysis determined respondents' network characteristics, use of networks in times of chronic or acute illness, and respondents' background characteristics. Results showed that females reported more network advice in favor of using health services and had larger networks than men, and younger respondents and higher socioeconomic groups had larger networks. Older respondents and females were most likely to use health services for chronic problems. Respondents with greater network contact in general were less likely to use health services for chronic problems. However, those reporting specific network advice to see a doctor were more likely to use health services for chronic problems. A conclusion is that the type of advice given by the social network, not the network structure, is important in predicting a person's use of health services. (Author/AV),

 * Reproductions supplied by EDRS are the best that can be made *
 * from the original document. *

ED180895

THE INFLUENCE OF SOCIAL NETWORKS
ON THE USE OF HEALTH SERVICES

Dr. Sharon Reeder
Alfred C. Marcus
Teresa E. Seeman
UCLA

Paper Presented at the American Sociological Association Meetings

Boston
August, 1979

us
"PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY

Sharon Reeder

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRO-
DUCED EXACTLY AS RECEIVED FROM
THE PERSON OR ORGANIZATION ORIGIN-
ATING IT. POINTS OF VIEW OR OPINIONS
STATED DO NOT NECESSARILY REPRESENT
OFFICIAL NATIONAL INSTITUTE OF
EDUCATION POSITION OR POLICY.

5d 012 275

Copyright 1979

THE INFLUENCE OF SOCIAL NETWORKS
ON THE USE OF HEALTH SERVICES

By

Sharon Reeder, Alfred Marcus, and Teresa Seeman

ABSTRACT

This paper presents preliminary findings from the Los Angeles Health Survey. Twelve hundred randomly selected adult respondents were interviewed in the fall of 1976 regarding a variety of health-related matters. We examined the general hypothesis of whether or not the characteristics of an individual's social network predicted the use of health services.

We found the type of advice that the network gave regarding use of health services was a better predictor than the structural characteristics of the network.

INTRODUCTION: OVERVIEW OF THE PROJECT

IN MY DISCUSSION TODAY I WOULD LIKE TO PRESENT SOME PRELIMINARY FINDINGS THAT DEAL WITH THE INFLUENCE OF AN INDIVIDUAL'S SOCIAL NETWORKS OR SOCIAL SUPPORT SYSTEMS ON THEIR UTILIZATION OF HEALTH SERVICES. THE DATA THAT I WILL SHARE WITH YOU COME FROM THE 1976 ADULT HOUSEHOLD SURVEY CONDUCTED AS PART OF THE ONGOING LOS ANGELES HEALTH SURVEY. IN THE FALL OF 1976, APPROXIMATELY 1,200 ADULT RESPONDENTS WERE INTERVIEWED IN LOS ANGELES COUNTY ABOUT A VARIETY OF HEALTH-RELATED MATTERS. THE SAMPLING DESIGN USED IN THIS SURVEY IS A THREE STAGE RANDOM PROBABILITY SAMPLE OF LOS ANGELES COUNTY. THE INTERVIEWS WERE CONDUCTED BY THE INSTITUTE FOR SOCIAL SCIENCE RESEARCH AT UCLA. THE INTERVIEWS LASTED FOR APPROXIMATELY ONE HOUR AND COVERED SUCH TOPICS AS THE PERSON'S RECENT ILLNESS AND CHRONIC ILLNESS HISTORY, USUAL SOURCE OF HEALTH CARE, HEALTH ATTITUDES AND PREVENTIVE HEALTH BEHAVIORS, DESCRIPTIONS OF SOCIAL NETWORKS, AND OF COURSE, VARIOUS DEMOGRAPHICS CHARACTERISTICS.

ONE OF MY AREAS OF INTEREST ON THIS PROJECT INVOLVES TESTING THE GENERAL HYPOTHESIS THAT SOCIAL NETWORKS INFLUENCE HEALTH BEHAVIOR IN PREDICTABLE WAYS. THIS SOCIAL NETWORK HYPOTHESIS, OF COURSE, HAS BECOME VERY POPULAR OF LATE AND HAS BEEN STUDIED AT A VARIETY OF LEVELS.

THE THEORY OF SOCIAL NETWORKS

IN THIS SECTION OF THE PRESENTATION, I WOULD LIKE TO GIVE A BRIEF INTRODUCTION TO THE WAY THAT THE CONSTRUCT OF SOCIAL NETWORKS HAS BEEN CONCEPTUALIZED.

TRADITIONALLY, THE SOCIAL SCIENCES HAVE BEEN INTERESTED IN EXAMINING THE NATURE OF THE "SOCIAL BOND." SIMMEL'S ESSAY ON "THE WEB OF GROUP AFFILIATIONS" IN 1922 (SIMMEL, 1922) CONJURED IN THE MINDS OF SOCIOLOGISTS THE IMAGERY OF COMPLEX STRANDS OF AFFILIATIONS WHICH RADIATED FROM THE INDIVIDUAL TO CLOSE ASSOCIATES (E.G., KIN, FRIENDS, CO-WORKERS) AND THEN TO THE LARGER SOCIETY BEYOND. THESE NETWORK BONDS INTEGRATE US WITHIN A LARGER SOCIETY THROUGH OUR EXCHANGES OF INFORMATION, OPINIONS, AND SERVICES WITH NETWORK CONTACTS. A SOCIAL NETWORK'S EVER WIDENING COMPLEX OF RELATIONSHIPS LINK THE CENTER, THE INDIVIDUAL, TO EVER MORE DISTANT PEOPLE, TYING A SOCIETY TOGETHER. "IN SUMMARY, TO UNDERSTAND THE TOTAL SOCIETY AND ITS INDIVIDUALS, WE MUST UNDERSTAND THE FINE MESH OF SOCIAL RELATIONS BETWEEN THE SOCIETY AND THE INDIVIDUAL; I.E., THE SOCIAL NETWORKS" (FISCHER, VII).

THERE HAS BEEN A GROUP OF RESEARCHERS WHO HAVE EXAMINED THIS CONSTRUCT AT A MORE MICRO LEVEL TO SEE WHAT CAN BE GLEANED FOR VERY PRACTICAL USE, PARTICULARLY IN THE HEALTH FIELD. I WILL SUMMARIZE THEIR FINDINGS AND SPECULATION BRIEFLY, SINCE THIS GROUP HAS DIRECT RELEVANCE FOR US.

SALLOWAY AND DILLON (1973) REFER TO SOCIAL NETWORKS AS AN ADAPTIVE SYSTEM WHICH ENABLES INDIVIDUAL MEMBERS TO ADJUST TO COMPLEX ENVIRONMENTS. SPECIFICALLY, A NETWORK IS "THE NORMAL SET OF INTERACTIONS A PERSON HAS IN HIS DAILY AFFAIRS AND TO WHICH HE TURNS IN TIMES OF JOY AND STRESS." (SALLOWAY, 1974)

SOCIAL NETWORK THEORY SUGGESTS THAT WHEN INDIVIDUALS BECOME CONCERNED ABOUT THREATS--INCLUDING THE POSSIBILITY OF ILLNESS--THEY BEGIN TO SEEK INFORMATION AND SUPPORT FROM THEIR NETWORK OF SOCIAL CONTACTS. SUCH NETWORKS ARE SEEN MOST COMMONLY IN FAMILY INTERACTION PATTERNS, FRIENDSHIP PATTERNS, AND IN WORK GROUPS AND ARE MAINTAINED BY HIGH RATES OF COMMUNICATION, VISITING AND MUTUAL AID. THIS PROCESS OF TURNING TO OTHERS FOR ORIENTATION AND AID IN THE FACE OF UNCERTAINTY AND ANXIETY IS A PATTERN WHICH HAS LONG BEEN DOCUMENTED IN THE SOCIOLOGICAL LITERATURE ON REFERENCE GROUPS (HYMAN AND SINGER, 1968) AND FAMILY HELP PATTERNS (SUSSMAN, 1953).

SALLOWAY AND DILLON DIRECTLY ADDRESS THE ISSUE OF FAMILY AND FRIENDS NETWORKS IN HEALTH CARE UTILIZATION (SALLOWAY AND DILLON, 1973). THEY POINT OUT THAT, ALTHOUGH FRIEDSON (1961) AND OTHERS HAVE CALLED ATTENTION TO THE IMPORTANCE OF A RELATED CONCEPT, THE LAY REFERRAL SYSTEM, LITTLE SYSTEMATIC RESEARCH HAS BEEN DONE ON THE STRUCTURE OF FAMILY OR FRIEND NETWORKS AS THEY RELATE TO HEALTH CARE.

McKINLEY (1972) ALSO UNDERSCORES THE NEED FOR SYSTEMATIC RESEARCH ON NETWORKS IN HEALTH BEHAVIOR AND UTILIZATION OF SERVICES WHEN HE NOTES THAT ALMOST EVERYONE WHO WRITES ON THE ABOVE TOPICS SEEMS TO PAY AT LEAST PASSING LIP SERVICE TO THE IMPORTANCE OF NETWORKS, BUT THERE HAVE BEEN REMARKABLY FEW ATTEMPTS TO SPECIFY THE NATURE OF THEIR INFLUENCE.

GRANOVETTER (1972) AND LIU AND DUFF (1973) SUGGEST TWO MAIN NETWORK TYPES:

A) STRONG TIES WHERE THERE IS A HIGH DEGREE OF INTERDEPENDENCE AND/OR CONSULTATION WITH A RELATIVELY SMALL NUMBER OF PERSONS; AND B) WEAK TIES WHERE THERE IS LITTLE INTERDEPENDENCE AND/OR CONSULTATION AND THE RANGE OF CONSULTATION CONTACTS IS DIVERSE. IT IS HYPOTHESIZED THAT THESE NETWORK TYPES MAY HAVE DIFFERENTIAL INFLUENCE ON THE HEALTH BEHAVIOR OF INDIVIDUALS. IN THE CASE OF STRONG TIES, THERE MAY BE PROTRACTED LAY REFERRAL AND DELAYED USE OF SERVICES. STRONG TIES MAY ALSO ENCOURAGE NETWORK MEMBERS TO REMAIN "WELL" AND NOT CLAIM EXEMPTIONS

PROVIDED BY THE SICK ROLE. FINALLY, STRONG TIES MAY RESULT IN CERTAIN PROBLEMS BEING CONSIDERED BY THE NETWORK WHICH TAKE PRECEDENCE OVER HEALTH MATTERS AND WHICH REDUCE THE HEALTH CONDITION TO A RELATIVELY LOW PRIORITY. CONVERSELY, WEAK TIE NETWORKS, WITH THEIR DIVERSITY OF CONTACTS MAY PROVIDE INFORMATION WHICH IS CONFUSING OR DISPARATE. THUS, THE INDIVIDUAL IS COMPELLED TO SEEK PROFESSIONAL ADVICE SOONER THAN HE WOULD IF HIS NETWORK WERE OF THE STRONG TIE VARIETY.

IN THE SAME VEIN, SALLOWAY AND DILLON (1973) FOUND THAT LARGE FRIEND NETWORKS TENDED TO LEAD TO SPEEDY UTILIZATION OF HEALTH SERVICES WHILE LARGE FAMILY NETWORKS TENDED TO SUPPORT DELAY BEHAVIOR. WHILE THE EXPLANATION FOR THESE DIFFERENCES IS NOT YET CLEAR, THERE IS SOME THEORETICAL BASIS TO SPECULATE THAT FRIEND NETWORKS TEND TO FUNCTION AS COMMUNICATION SYSTEMS, SHARING CURRENT INFORMATION ABOUT HEALTH SERVICES, WHILE FAMILY NETWORKS FUNCTION MORE AS SUPPORT SYSTEMS FOR MAINTAINING ESTABLISHED SOCIAL ROLES.

FINALLY, ANDERSON AND ADAY (1975) HAVE POSTULATED THAT THE TYPE AND STRUCTURE OF THE NETWORK HAVE LESS INFLUENCE ON UTILIZATION BEHAVIOR THAN DOES THE TYPE OF ADVICE THE NETWORK MEMBERS GIVE--THAT IS, DO THEY ADVOCATE SEEKING MEDICAL CARE QUICKLY IN THE FACE OF CONCERN OR SYMPTOMS, OR DO THEY ESPOUSE DELAYING SEEKING MEDICAL CARE.

THE DATA THAT I WILL PRESENT HAVE IMPLICATIONS FOR SEVERAL OF THE POINTS JUST RAISED REGARDING THE STRUCTURE OF THE NETWORK AND THE TYPE OF ADVICE THEY TEND TO GIVE, HOWEVER, BEFORE I PRESENT THESE FINDINGS, LET ME FIRST DESCRIBE HOW THESE DATA WERE COLLECTED.

RESEARCH DESIGN

THE ANALYSES TO BE REPORTED ARE PART OF A LARGER INVESTIGATION OF HEALTH STATUS, HEALTH BEHAVIOR, UTILIZATION OF HEALTH SERVICES, AND ADHERENCE TO MEDICAL REGIMENS. THIS IS A LONGITUDINAL STUDY WITH TWO MAJOR SUB-STUDIES; THE FIRST SUB-STUDY IS A TREND ANALYSIS AND THE SECOND IS A PANEL OR FOLLOW-UP STUDY. THE TREND STUDY INVOLVES INTERVIEWING NEW CROSS-SECTIONAL SAMPLES AT DIFFERENT POINTS IN TIME TO IDENTIFY GROUP-LEVEL TRENDS AT THE MACRO OR AGGREGATE LEVEL. THE TREND STUDY MONITORS AGGREGATE CHANGES (CHANGES IN DIFFERENT INDIVIDUALS AT EACH SURVEY) IN SUCH SOCIO-MEDICAL COMMUNITY INDICATORS AS:

- a) HEALTH STATUS;
- b) USE OF HEALTH SERVICES;
- c) REGULAR SOURCE OF MEDICAL CARE;
- d) MEDICAL COVERAGE OF HEALTH INSURANCE; AND
- e) ADHERENCE TO MEDICAL ADVICE.

THE PANEL STUDY PROVIDES AN OPPORTUNITY TO STUDY THE SAME RESPONDENTS OVER A SERIES OF POINTS IN TIME TO PERMIT ANALYSES OF INDIVIDUAL HEALTH BEHAVIOR PROCESSES AND THE TIME-ORDERING IN WHICH EVENTS OCCUR. THE PANEL DESIGN INVOLVES ANALYSIS OF CHANGES IN BEHAVIOR IN A DEFINED POPULATION, AND PERMITS AN INVESTIGATION OF THE DYNAMICS OF THE BEHAVIOR UNDER OBSERVATION. IN THE PANEL STUDY ONE OF THE MAJOR INTERESTS IS THE INVESTIGATION OF INFLUENCE OF THE INDIVIDUALS' SOCIAL NETWORKS ON HEALTH MOTIVATIONS AND BEHAVIOR.

(INSERT FIGURE 1)

FIGURE 1 PRESENTS THE OVERALL STUDY DESIGN. THE DATA REPORTED WERE COLLECTED AS PART OF THE THIRD TREND POINT IN THE FALL OF 1976. AS SHOWN, THIS TREND POINT IS EMPANELED WITH RESPONDENTS BEING RE-INTERVIEWED PERIODICALLY BY TELEPHONE FOR ONE YEAR. FOR THIS REPORT, HOWEVER, THE DATA

FIGURE 1: Four-point Study with One-Year Panel

	Spring/74 T_1	Fall/74 T_2	Fall/76 T_3	Fall/77 T_4
TREND STUDY	N = 1000	N = 1000	N = 1200	N = 1000
PANEL STUDY			↓ Begin —————> End (N = 1200)	

ARE CROSS-SECTIONAL AND REPRESENT ONLY ONE TIME POINT (FALL, 1976).

SAMPLING DESIGN

THE SAMPLING SCHEME FOR THE LOS ANGELES HEALTH SURVEY USES THE SAMPLING FRAME DEVELOPED BY THE SURVEY RESEARCH CENTER FOR ITS LOS ANGELES METROPOLITAN AREA SAMPLE (LAMAS). THE LAMAS SAMPLING FRAME CONTAINS APPROXIMATELY 20,000 COMPUTER-READABLE ADDRESSES SAMPLED FROM THE COUNTY ON AN AREA PROBABILITY BASIS. SAMPLES DRAWN FROM THE FRAME MAY BE CHARACTERIZED AS PROBABILITIES PROPORTIONAL TO SIZE (PPS) THREE-STAGE SAMPLES. THE THREE STAGES USE A COMPUTER SAMPLING PROCEDURE WHICH INSURES THAT EACH HOUSING UNIT (HU) IN LOS ANGELES COUNTY HAS AN EQUAL PROBABILITY OF BEING SELECTED. SAMPLES OF HOUSING UNITS DRAWN FROM THE FRAME ARE REPRESENTATIVE OF LOS ANGELES COUNTY.

DESCRIPTION OF INDICES

THE INFORMATION ON SOCIAL NETWORKS WAS OBTAINED BY A SERIES OF QUESTIONS ORIGINALLY DEVELOPED BY SALLOWAY (1974). BRIEFLY, RESPONDENTS WERE ASKED TO MENTION THE NAMES OF PEOPLE THEY TALK TO MOST OFTEN ABOUT MATTERS OF CONCERN OR IMPORTANCE, "INCLUDING MATTERS RELATED TO YOUR HEALTH." FOR EACH PERSON MENTIONED, (UP TO 7), WE OBTAINED THE FOLLOWING INFORMATION:

RELATIONSHIP TO THE RESPONDENT

AGE OF NETWORK MEMBERS

PROXIMITY OF RESIDENCE

FREQUENCY OF VISITS

WHETHER NETWORK MEMBERS KNOW ONE ANOTHER

WHICH MEMBERS WOULD BE EXPECTED TO SHOW CONCERN, HELP WITH

SHOPPING, OR LOAN MONEY, AND GENERALLY PROVIDE ROLE SUPPORT

WHICH MEMBERS WOULD BE CONSULTED ABOUT HEALTH MATTERS

THUS, WE OBTAINED VERY DETAILED INFORMATION ABOUT THE SIZE AND CHARACTERISTICS OF THE NETWORK. TO SUMMARIZE THE INFORMATION, WE SUMMED THE SCORES ACROSS THE NETWORK MEMBERS MENTIONED, AND DIVIDED BY THE SIZE OF THE NETWORK.

TO DETERMINE HOW THE NETWORK ITEMS THEMSELVES CLUSTERED TOGETHER, A PRINCIPAL COMPONENTS (FACTOR) ANALYSIS WAS CONDUCTED.*

FOR BOTH THE RELATIVE DATA AND THE FRIEND DATA, FOUR "FACTORS" OR ITEM CLUSTERS WERE OBTAINED, AND AS TABLE 1 INDICATES, THESE FACTORS ARE ESSENTIALLY THE SAME FOR BOTH SETS OF DATA.

(INSERT TABLE 1)

FACTOR I IS MARKED BY VARIABLES MEASURING THE FREQUENCY OF CONTACT (TELEPHONE CALLS OR VISITS) AND THE RESIDENTIAL PROXIMITY OF THE NETWORK MEMBERS. THESE VARIABLES HAVE BEEN COMBINED TO FORM A "CONTACT INDEX," WHICH INDICATES HOW PHYSICALLY CLOSE THE NETWORK MEMBERS ARE TO THE RESPONDENT.

FACTOR II IS MARKED PRIMARILY BY VARIABLES MEASURING THE DEGREE TO WHICH THE RESPONDENT WOULD CONSULT WITH AND FOLLOW THE ADVICE OF NETWORK MEMBERS FOR MAJOR AND/OR MINOR HEALTH PROBLEMS. THESE TWO VARIABLES HAVE BEEN COMBINED TO FORM A "CONSULTING INDEX" WHICH INDICATES THE EXTENT TO WHICH THE RESPONDENT DEPENDS ON OTHERS FOR HEALTH ADVICE.

*PRINCIPAL COMPONENTS ANALYSIS IS A COMMONLY USED STATISTICAL TECHNIQUE FOR IDENTIFYING THE UNDERLYING DIMENSIONS AMONG A SET OF VARIABLES, AND IS THEREFORE USED MAINLY FOR INDEX AND SCALE CONSTRUCTION. IF SEVERAL SIMILAR ITEMS THAT ARE PRESUMED TO BE MEASURING THE SAME BASIC CONCEPT ALSO CLUSTER TOGETHER STATISTICALLY IN THIS ANALYSIS, THEN WE HAVE GREATER CONFIDENCE THAT WE ARE MEASURING THE SAME DIMENSION AND THE MEASUREMENT OF THE CONSTRUCT IS RELIABLE.

TABLE I

PRINCIPAL COMPONENTS FACTOR ANALYSIS OF NETWORK VARIABLES

Variables	Relatives				Friends			
	I Contact	II Consulting	III Role Support	IV Extent	I Contact	II Consulting	III Role Support	IV Extent
Proximity	.83				.82			
Contact	.41				.62			
Call if ill		.68				.73		
Shop if ill		.52				.70		
Lend money	.51	.41				.50		
Show concern		.39				.57		
Consult-minor	.72				.78			
Consult-major	.76				.83			
Size			.87				.86	
Density			.68				.50	
Diff-Age			.81				.71	
Diff-Proximity			.81				.66	

Notes: $N = 1003$ for relative data, and 617 for friend data.

Loadings shown are from a principal component analysis with a varimax rotation. Loadings $< .35$ have been suppressed.

FACTOR III IS MARKED BY THE VARIABLES MEASURING THE AMOUNT OF ROLE SUPPORT OBTAINED FROM THE NETWORK MEMBERS (I.E., WHETHER THEY WOULD CALL OR SHOW CONCERN IF THE RESPONDENT WAS ILL, HELP WITH SHOPPING, LEND MONEY, ETC.). THESE VARIABLES HAVE BEEN COMBINED TO FORM A "ROLE SUPPORT INDEX."

FINALLY, FACTOR IV IS MARKED BY VARIABLES MEASURING THE SIZE, DENSITY, AND DIFFERENTIATION OF THE NETWORK. THE MAIN VARIABLE HERE IS NETWORK SIZE, AND THIS FACTOR REPRESENTS THE SIZE OR "EXTENSITY" OF THE NETWORK, WHICH IS INDEPENDENT OF THE FACTORS FOR CONTACT, CONSULTING, AND ROLE SUPPORT.

PRELIMINARY ANALYSES INDICATED THAT, FOR OUR SAMPLE, THERE WAS LITTLE DIFFERENCE BETWEEN RELATIVE AND FRIEND NETWORKS WITH RESPECT TO A VARIETY OF CRITICAL VARIABLES, INCLUDING UTILIZATION. THUS, THESE PRELIMINARY DATA DO NOT SUPPORT SALLOWAY AND DILLON'S FINDINGS THAT RELATIVE AND FRIEND NETWORKS BEHAVE DIFFERENTIALLY. THEREFORE, FOR THIS ANALYSIS WE COMBINED THE TWO INDICES.

IN VIEW OF THE EXCEPTIONALLY CLEAR FACTOR STRUCTURE FOR THE NETWORK VARIABLES, THE CONTACT, CONSULTING AND ROLE SUPPORT INDICES WERE CREATED BY SIMPLE SUMMATION OF THE VARIABLES THAT LOADED ON EACH OF THE RESPECTIVE FACTORS SHOWN IN TABLE 1. THE SCORES FOR FRIENDS AND FAMILIES WERE THEN COMBINED TO PRODUCE A COMPOSITE MEASURE FOR EACH OF THE THREE INDICES.

IN ADDITION TO THESE INDICES, WHICH BASICALLY DESCRIBE THE STRUCTURE AND ORGANIZATION OF THE NETWORK RELATIONSHIP, WE ALSO HAVE AN INDEX THAT MEASURES, IN VERY GENERAL TERMS, THE TYPE OF ADVICE USUALLY GIVEN BY THE NETWORK. THUS, RESPONDENTS WERE ASKED WHETHER FAMILY MEMBERS AND/OR FRIENDS ENCOURAGE THEM TO "GET MEDICAL ADVICE AS SOON AS POSSIBLE" WHEN THEY HAVE A HEALTH PROBLEM THAT MIGHT BE SERIOUS. THE SUMMATED INDEX CONSTRUCTED FROM THESE FAMILY/FRIEND QUESTIONS RANGES FROM 0 TO 2. A SCORE OF 0 MEANS THAT NEITHER FAMILY NOR FRIENDS USUALLY SUGGEST THAT THE RESPONDENT GET MEDICAL ADVICE AS SOON AS POSSIBLE; A SCORE OF 1 MEANS EITHER FAMILY OR FRIENDS MAKE THE SUGGESTION (BUT NOT BOTH), WHILE A SCORE OF 2 INDICATES THAT BOTH FAMILY AND FRIENDS ENCOURAGE USE OF HEALTH SERVICES AS SOON AS POSSIBLE.

TWO OF OUR HEALTH SERVICES UTILIZATION MEASURES ARE BASED ON ITEMS CONCERNING THE USE OF SERVICES FOR ACUTE AND CHRONIC HEALTH CONDITIONS, AND ARE SIMILAR TO THE ONES USED IN THE U.S. NATIONAL HEALTH SURVEY, EXCEPT THAT THE RECALL PERIOD IS DIFFERENT. THE NCHS RECALL PERIOD IS 2 WEEKS; OURS IS TWO MONTHS. THE ACUTE ILLNESS QUESTION ASKS RESPONDENTS TO DESCRIBE ALL ACUTE

ILLNESSES THEY HAVE HAD WITHIN TWO MONTHS OF THE DATE OF THE INTERVIEW, (UP TO 3 MENTIONS). RESPONDENTS WERE THEN ASKED IF THEY HAD SEEN OR MADE CONTACT WITH A DOCTOR REGARDING EACH ILLNESS THEY MENTIONED. THE INDEX OF UTILIZATION FOR ACUTE ILLNESSES REPRESENTS THE PROPORTION OF ALL ACUTE ILLNESSES (REPORTED BY THE RESPONDENT) THAT WERE ACCOMPANIED BY A DOCTOR VISIT. AN INDEX OF USE OF HEALTH SERVICES FOR CHRONIC ILLNESSES WAS CONSTRUCTED FROM A SIMILAR SET OF QUESTIONS. RESPONDENTS WERE FIRST ASKED TO LIST ALL OF THEIR CHRONIC HEALTH PROBLEMS. A FOLLOW-UP QUESTION THEN ASKED HOW LONG AGO A DOCTOR WAS CONTACTED ABOUT EACH PROBLEM LISTED. THE INDEX OF USE OF HEALTH SERVICES FOR CHRONIC PROBLEMS EXPRESSES THE PROPORTION OF ALL CHRONIC ILLNESS MENTIONED BY THE RESPONDENT THAT WERE ACCOMPANIED BY A DOCTOR VISIT WITHIN ONE YEAR OF THE INTERVIEW.

THESE MEASURES WERE USED INSTEAD OF SUCH A MEASURE AS TOTAL NUMBER OF DOCTOR CONTACTS FOR ALL ILLNESS EPISODES -- BECAUSE THIS LATTER MEASURE IS CONFOUNDED BY PHYSICIAN RECOMMENDATIONS FOR FOLLOW UP VISITS AND PATIENT COMPLIANCE WITH SUCH ADVICE. THE MEASURE OF UTILIZATION USED HERE, ESPECIALLY IN THE CASE OF ACUTE ILLNESS, IS MORE REFLECTIVE OF THE RESPONDENTS' PERSONAL DECISION TO SEEK HEALTH CARE.

SINCE BOTH MEASURES ARE EXPRESSED AS A PROPORTION, THE NUMERATOR OF THE PROPORTION (I.E., THE NUMBER OF ACUTE OR CHRONIC PROBLEMS WITH A DOCTOR VISIT WITHIN THE SPECIFIED TIME PERIOD) IS, IN EFFECT, STANDARDIZED ON THE BASIS OF THE NUMBER OF ACUTE OR CHRONIC PROBLEMS THAT COULD HAVE RESULTED IN USE OF SERVICES HAD THE RESPONDENT SEEN A DOCTOR ABOUT ALL CONDITIONS THAT WERE REPORTED. THUS, THE TWO MEASURES OF UTILIZATION -- ONE FOR ACUTE AND ONE FOR CHRONIC ILLNESS -- REFLECT THE RESPONDENTS' TENDENCY TO USE HEALTH SERVICES. A SCORE OF 1.0, FOR EXAMPLE, MEANS THAT THE PERSON SAW THE DOCTOR FOR ALL PROBLEMS THAT WERE MENTIONED, WHILE A SCORE OF .33 MEANS THAT THE PERSON MADE CONTACT WITH THE DOCTOR FOR 1/3 OF THE CONDITIONS THAT WERE REPORTED. DOCTOR CONTACT, BY THE WAY, INCLUDES DOCTOR VISITS TO A HOSPITAL, CLINIC,

A PRIVATE OFFICE, AND CONTACT MADE OVER THE TELEPHONE.

(INSERT TABLE 2)

THE DISTRIBUTIONS OF BOTH INDICES OF UTILIZATION ARE SHOWN IN TABLE 2. AS SHOWN, NEARLY 71% OF THE SAMPLE DID NOT REPORT AN ACUTE ILLNESS EPISODE WITHIN 2 MONTHS OF THE INTERVIEW, WHILE JUST A LITTLE UNDER ONE-HALF THE SAMPLE (48.3%) REPORTED NO CHRONIC ILLNESS.

IT CAN BE SEEN THAT BOTH UTILIZATION VARIABLES HAVE A DISTINCT BIMODAL DISTRIBUTION, WHICH SUGGESTS THAT THE PEOPLE IN THIS SURVEY TENDED TO USE OR NOT USE HEALTH SERVICES IN A CONSISTENT FASHION -- AT LEAST WITH RESPECT TO THE HEALTH CONDITIONS THAT WERE REPORTED TO THE INTERVIEWERS. FOR EXAMPLE, WHEN WE ONLY LOOK AT THOSE WHO HAD AT LEAST ONE ACUTE PROBLEM (N = 355), THE ADJUSTED PERCENT COLUMN OF TABLE 2 INDICATES THAT NEARLY 43 PERCENT OF THE RESPONDENTS DID NOT SEE A DOCTOR FOR ANY OF THEIR ACUTE PROBLEMS, WHILE 51.5% REPORTED SEEING THE DOCTOR FOR ALL OF THE ACUTE PROBLEMS THEY MENTIONED.

A SIMILAR PATTERN ALSO EMERGES IN THE BOTTOM PORTION OF TABLE 2, WHERE WE SEE A LARGE PERCENTAGE OF RESPONDENTS IN THE ADJUSTED PERCENT COLUMN OF TABLE 2 WHO EITHER SAW A DOCTOR WITHIN THE PAST YEAR FOR NONE OF THEIR CHRONIC PROBLEMS (26.1%) OR FOR ALL OF THEIR CHRONIC PROBLEMS (62.7%).

IN THE ANALYSES THAT FOLLOW WE WILL ONLY CONSIDER THOSE RESPONDENTS WHO HAD AT LEAST ONE ACUTE PROBLEM - FOR THE MEASURE OF USE BASED ON ACUTE ILLNESSES; AND ONLY THOSE RESPONDENTS WITH AT LEAST ONE CHRONIC PROBLEM FOR THE MEASURE OF USE BASED ON CHRONIC ILLNESSES.

RESULTS

WE BEGAN OUR ANALYSIS BY EXAMINING THE CORRELATION BETWEEN THE SOCIAL NETWORK VARIABLES AND SELECTED SOCIODEMOGRAPHIC VARIABLES.

TABLE 2

FREQUENCY DISTRIBUTIONS FOR THE PROPORTIONS OF ACUTE AND
CHRONIC PROBLEMS ACCOMPANIED BY A DOCTOR'S VISIT

PROPORTION OF ACUTE PROBLEMS ACCOMPANIED BY DOCTOR VISIT (PAST 2 MONTHS)

Proportions	Frequency	Unadjusted Percent	Adjusted Percent ¹
No acute problems	855	70.7	—
0.0	152	12.6	42.8
0.33	4	0.3	1.1
0.50	15	1.2	4.2
0.67	1	0.1	0.3
1.00	183	15.1	51.5
TOTAL	1210	100.0	100.0

PROPORTION OF CHRONIC PROBLEMS ACCOMPANIED BY DOCTOR VISIT IN THE PAST YEAR

Proportions	Frequency	Unadjusted Percent	Adjusted Percent ¹
No chronic problems	585	48.3	—
0.0	163	13.5	26.1
0.33	7	0.6	1.1
0.50	39	3.2	6.2
0.67	24	2.0	3.8
1.00	392	32.4	62.7
TOTAL	1210	100.0	100.0

¹ Adjusted percents reflect the deletion of those without an acute/chronic problem.

(INSERT TABLE 3)

AS SEEN IN TABLE 3 THESE CORRELATIONS ARE GENERALLY SMALL -- THE ONLY SUBSTANTIAL CORRELATION BEING THE ASSOCIATION OF MARITAL STATUS WITH GREATER SOCIAL NETWORK CONTACT ($r = .37$). BEING MARRIED IS ALSO ASSOCIATED WITH GREATER CONSULTING AND SUPPORT FROM SOCIAL NETWORK MEMBERS AS IS BEING MALE, NON-ANGLO AND HAVING A HIGHER INCOME (CORRELATIONS HERE AVERAGE ABOUT .15). TYPE OF NETWORK ADVICE SHOWED A MODEST CORRELATION WITH ONLY ONE VARIABLE -- AND THAT WAS RESPONDENT SEX; FEMALES TENDED TO REPORT SLIGHTLY MORE NETWORK ADVICE IN FAVOR OF USING HEALTH SERVICES THAN MEN ($r = .15$). THE SIZE OF THE NETWORK WAS FOUND TO CORRELATE WITH RESPONDENT AGE (YOUNGER RESPONDENTS TENDED TO HAVE LARGER NETWORKS, $r = -.18$); FEMALES TENDED TO HAVE LARGER NETWORKS THAN MEN ($r = .10$), AND THE HIGHER SOCIOECONOMIC GROUPS HAD LARGER NETWORKS ($r = .17$).

IN ADDITION TO THESE SOCIODEMOGRAPHIC VARIABLES, WE EXAMINED THE CORRELATIONS BETWEEN THE SOCIAL NETWORK VARIABLES AND TWO MEASURES OF HEALTH STATUS. ONE, THE NUMBER OF RESTRICTED DAYS WITHIN THE PAST 2 MONTHS, WAS CREATED BY SUMMING NUMBER OF REPORTED BED-DAYS AND NUMBER OF REDUCED ACTIVITY DAYS. THE SECOND IS A FOUR POINT SCALE OF SELF REPORTED HEALTH STATUS; EXCELLENT, GOOD, FAIR, POOR. AGAIN, AS SEEN IN TABLE 3, BOTH OF THESE HEALTH STATUS MEASURES SHOW ONLY SMALL CORRELATIONS WITH THE VARIOUS SOCIAL NETWORK VARIABLES. GENERALLY, FEWER RESTRICTED DAYS AND LOWER SELF-RATING OF HEALTH STATUS ARE ASSOCIATED WITH GREATER CONSULTING, CONTACT AND SUPPORT; MOREOVER, THE AVERAGE CORRELATIONS ARE QUITE SMALL--APPROXIMATELY $\pm .05$.

WE DID FIND A SUGGESTIVE RELATIONSHIP BETWEEN NETWORK ADVICE AND SELF-RATED HEALTH STATUS. NOTE THAT PEOPLE WHO RATE THEIR HEALTH LOWER ARE THE SAME ONES WHO REPORT MORE ADVICE TO SEE THE DOCTOR (AS EVIDENCED BY THE NEGATIVE CORRELATION BETWEEN NETWORK ADVICE AND SELF-RATED HEALTH STATUS $-.084^*$). APPARENTLY THIS FORM OF NETWORK ADVICE (I.E. ADVICE TO SEE THE DOCTOR) IS BEING DIRECTED TO THOSE WHO MAY NEED IT THE MOST (I.E. THOSE WITH SELF-RATINGS

TABLE 3
BIVARIATE CORRELATIONS AMONG SOCIAL NETWORK DESCRIPTOR
VARIABLES AND DEMOGRAPHIC AND HEALTH STATUS VARIABLES

Demographic Variables	Social Network Descriptor Variables				
	Size of Network	Consultation	Contact	Support	Network Advice
Age	-.180***	-.014	-.016	-.077*	-.09**
Sex	.100**	-.035	-.121***	-.038	.152***
Marital status	.003	.125***	.374***	.138***	.023
Socioeconomic index	.17***	-.104***	-.079*	-.011	-.010
Race/Ethnicity	-.080*	.133***	.096**	.079*	.034
Family income	.133*	-.040	.144***	.117***	.013
Health Status Variables					
Restricted activity days (past 2 months)	.057	-.085**	-.031	-.070*	.051
Self-rated health status	.011	-.006	-.016	.086**	-.084*

* $p < .05$

** $p < .01$

*** $p < .001$

Codes for variables:

Sex: 1 = male 2 = female

Marital status: 1 = married $\emptyset$ = not married

Socioeconomic index: Composite index of education and occupation

Race/Ethnicity: 1 = non-minority 2 = minority

OF LOWER HEALTH STATUS).

HAVING SEEN THAT THE SOCIAL NETWORK VARIABLES ARE NOT HIGHLY CORRELATED WITH EITHER SOCIODEMOGRAPHIC OR HEALTH STATUS MEASURES, WE SET ABOUT TESTING OUR FIRST HYPOTHESIS:

THAT INDIVIDUALS WHO ARE HIGH USERS OF HEALTH SERVICES WILL TEND TO BE LESS DEPENDENT UPON THEIR SOCIAL NETWORKS THAN PEOPLE WHO ARE LOW UTILIZERS OF HEALTH SERVICES.

THIS HYPOTHESIS IS DIRECTLY INFERRED FROM THE NOTION THAT THE LAY REFERRAL SYSTEM WITH RESPECT TO HEALTH MATTERS WILL INHIBIT THE USE OF HEALTH SERVICES. ACCORDINGLY, THE NETWORK VARIABLES OF TOTAL CONSULTING, CONTACT, SUPPORT, AND NETWORK SIZE SHOULD BE INVERSELY OR NEGATIVELY RELATED TO THE USE OF HEALTH SERVICES.

TO TEST THIS HYPOTHESIS WE CORRELATED THE ABOVE NETWORK VARIABLES WITH OUR UTILIZATION MEASURE -- AFTER CONTROLLING OR PARTIALLING OUT THE EFFECTS OF SEVERAL VARIABLES, INCLUDING:

RESPONDENT SEX

MARITAL STATUS

EDUCATION

AGE

TOTAL FAMILY INCOME

GENERAL HEALTH STATUS (A 4-POINT SELF RATING SCALE)

NUMBER OF ACUTE ILLNESSES IN THE PAST 2 MONTHS (WHEN ANALYZING UTILIZATION FOR ACUTE ILLNESSES).

NUMBER OF CHRONIC ILLNESSES (IN ANALYZING UTILIZATION FOR CHRONIC ILLNESSES)

WE WOULD LIKE TO POINT OUT THAT EVEN THOUGH THE MEASURES OF UTILIZATION WERE PREVIOUSLY STANDARDIZED FOR THE NUMBER OF HEALTH PROBLEMS (EITHER CHRONIC OR ACUTE), WE ALSO PARTIALLED OUT THESE VARIABLES BECAUSE THE NUMBER OF TOTAL HEALTH PROBLEMS (I.E., THE DENOMINATOR) MAY BE INVERSELY CORRELATED WITH THE PROPORTION OF HEALTH PROBLEMS (EITHER CHRONIC OR ACUTE) THAT WERE ACCOMPANIED BY A DOCTOR CONTACT. FOR EXAMPLE, PEOPLE LISTING 3 ACUTE PROBLEMS MAY BE REPORTING ONE OR TWO EPISODES THAT ARE NOT SEVERE AND HENCE WOULD NOT REQUIRE MEDICAL ATTENTION. THESE PEOPLE WOULD BE LESS LIKELY TO GET A HIGH SCORE, (I.E., 1.0). THAN FOR INSTANCE, THOSE WHO REPORT ONLY ONE ACUTE PROBLEM WHICH IS SEVERE AND REQUIRES MEDICAL ATTENTION. TO CONTROL FOR THIS POSSIBILITY, THEREFORE, WE ALSO PARTIALLED OUT THE EFFECTS DUE TO VARIATIONS IN THE NUMBER OF HEALTH PROBLEMS (I.E., THE DENOMINATOR).

THESE PARTIAL CORRELATIONS ARE PRESENTED IN TABLE 4, ALONG WITH THE BIVARIATE CORRELATIONS.

(INSERT TABLE 4)

AS SHOWN, SOCIAL NETWORK CONTACT SHOWED A SIGNIFICANT PARTIAL CORRELATION WITH DOCTOR VISITS FOR CHRONIC ILLNESSES, ($r = -.11$). NONE OF THE SOCIAL NETWORK VARIABLES, EXCEPT NETWORK ADVICE, SHOWED A SIGNIFICANT CORRELATION WITH DOCTOR VISITS FOR ACUTE CONDITIONS.

THESE FINDINGS CLEARLY DO NOT SUPPORT A STRONG RELATIONSHIP BETWEEN THE CHARACTERISTICS OF THE NETWORK AND THE USE OF HEALTH SERVICES, ALTHOUGH CONTACT RELATIONSHIP LENDS SOME SUPPORT TO THE HYPOTHESIS. PERHAPS, THEN, THE CHARACTERISTICS OF THE NETWORK RELATIONSHIP -- IN TERMS OF THE DEGREE OF SUPPORT, CONTACT, CONSULTING AND SO FORTH -- ARE LESS IMPORTANT FOR PREDICTING USE THAN THE TYPE OF ADVICE OFFERED BY THE NETWORK -- INDEPENDENTLY OF ITS STRUCTURE OR COMPOSITION, OR HOW DEPENDENT THE PERSON IS ON THE NETWORK.

TABLE 4
BIVARIATE¹ AND PARTIAL² CORRELATIONS AMONG SOCIAL NETWORK
DESCRIPTOR VARIABLES AND USE OF HEALTH SERVICES VARIABLES

Use Variables	Social Network Descriptor Variables				
	Size of Network	Average Consult	Average Contact	Average Support	Network Advice
Proportion of problems with doctor visits:					
CHRONIC	.046 (.017)	-.003 (-.000)	-.107** (-.099*)	-.015 (-.045)	.097* (.115**)
ACUTE	.027 (.029)	.053 (.026)	-.022 (-.048)	.015 (-.010)	.194*** (.233***)

* p < .05

** p < .01

*** p < .001

¹ bivariate correlations are represented in parentheses.

² variables partialled out include: age, sex, marital status, socioeconomic index, race/ethnicity, family income, number of acute or chronic problems (where appropriate), self-assessed health status, and number of restricted activity days.

THIS IS PRECISELY RON ANDERSON AND LUANN ADAY'S (1975) POINT WHEN THEY POSTULATE THAT NETWORK ADVICE MAY INDEED BE MORE IMPORTANT THAN THE STRUCTURE OR FORM OF THE NETWORK RELATIONSHIP.

(LET TABLE 4 REMAIN ON OVERHEAD)

SINCE THE CHARACTERISTICS OF THE NETWORK RELATIONSHIP DID NOT SEEM TO PREDICT USE OF HEALTH SERVICES, WE NEXT LOOKED AT WHETHER THE TYPE OF NETWORK ADVICE PREDICTED USE.

THE BIVARIATE AND PARTIAL CORRELATIONS BETWEEN THIS NETWORK ADVICE ITEM (DESCRIBED EARLIER) AND USE OF HEALTH SERVICES ARE SHOWN IN THE LAST COLUMN OF TABLE 4.

HERE, THE BIVARIATE AND PARTIAL CORRELATIONS DO LEND SOME SUPPORT TO THE HYPOTHESIS THAT IT IS NETWORK ADVICE WHICH IMPACTS ON USE OF HEALTH SERVICES. WE FIND THAT FOR BOTH ACUTE AND CHRONIC PROBLEMS, GETTING ADVICE TO SEE A DOCTOR SHOWS A SIGNIFICANT POSITIVE CORRELATION WITH SEEING THE DOCTOR, FOR ACUTE AS WELL AS CHRONIC PROBLEMS, ALTHOUGH THE CORRELATIONS ARE VERY MODEST.

USING A REGRESSION FRAMEWORK WE NEXT SOUGHT TO EXAMINE THE COMBINED EFFECTS OF SOCIODEMOGRAPHIC VARIABLES, HEALTH STATUS AND SOCIAL NETWORK VARIABLES IN PREDICTING UTILIZATION OF HEALTH SERVICES.

TO THIS END, WE REGRESSED BOTH OF THE UTILIZATION MEASURES ON ALL OF THE PREDICTOR VARIABLES IN STEP-WISE FASHION, INTRODUCING THE SOCIO-DEMOGRAPHIC VARIABLES FIRST, THEN THE SELF REPORTED HEALTH STATUS SCALE AND THE MEASURE OF RESTRICTED DAYS, FOLLOWED BY THE SOCIAL NETWORK DESCRIPTOR VARIABLES, AND FINALLY, THE NETWORK ADVICE ITEM. USING THIS STEPWISE APPROACH, WE WERE ABLE TO DETERMINE HOW MUCH VARIANCE THE SOCIAL NETWORK STRUCTURE AND NETWORK ADVICE VARIABLES COULD EXPLAIN, AFTER TAKING INTO ACCOUNT THE EFFECTS

OF SOCIODEMOGRAPHICS AND HEALTH STATUS. THE BETA WEIGHTS FROM THESE ANALYSES ARE REPORTED IN TABLE 5.*

(INSERT TABLE 5)

LOOKING FIRST AT USE OF HEALTH SERVICES FOR CHRONIC ILLNESSES, WE FIND THAT FIVE VARIABLES MADE SIGNIFICANT CONTRIBUTIONS TO THE PREDICTION EQUATION:

AGE -- OLDER RESPONDENTS ARE MORE LIKELY TO USE HEALTH SERVICES FOR CHRONIC PROBLEMS THAN YOUNGER RESPONDENTS (.11)

SEX -- FEMALES ARE MORE LIKELY THAN MALES TO USE HEALTH SERVICES FOR CHRONIC PROBLEMS (.13)

SELF-RATINGS OF HEALTH -- THOSE WHO RATE THEIR HEALTH AS FAIR OR POOR ARE MORE LIKELY TO USE HEALTH SERVICES FOR CHRONIC PROBLEMS THAN THOSE WHO RATE THEIR HEALTH AS GOOD OR EXCELLENT (-.24)

NETWORK CONTACT -- THOSE REPORTING GREATER NETWORK CONTACT ARE LESS LIKELY TO USE HEALTH SERVICES FOR CHRONIC PROBLEMS.

NETWORK ADVICE -- THOSE REPORTING MORE NETWORK ADVICE TO SEE A DOCTOR ARE MORE LIKELY TO USE HEALTH SERVICES FOR CHRONIC PROBLEMS.

*STANDARDIZED BETA COEFFICIENTS ARE THE REGRESSION BETA WEIGHTS CALCULATED USING STANDARDIZED FORMS OF THE INDEPENDENT VARIABLES RATHER THAN THEIR RAW SCORES. SUCH STANDARDIZATION IS HELPFUL BECAUSE WHEN THE INDEPENDENT VARIABLES ARE MEASURED IN DIFFERENT UNITS (E.G., INCOME IN DOLLARS AND EDUCATION IN YEARS) COMPARISON OF THEIR RELATIVE CONTRIBUTIONS TO THE REGRESSION EQUATION IS DIFFICULT. HOWEVER, THE STANDARDIZED BETA COEFFICIENTS, BECAUSE THEY ARE BASED ON INDEPENDENT VARIABLES STANDARDIZED TO A UNIFORM METRIC, PROVIDE A MEASURE OF THE RELATIVE CONTRIBUTION OF EACH INDEPENDENT VARIABLE TO THE REGRESSION EQUATION.

TABLE 5

MULTIPLE REGRESSION ANALYSES OF USE OF HEALTH SERVICES VARIABLES
ON DEMOGRAPHIC, HEALTH STATUS, AND SOCIAL NETWORK VARIABLES

Independent Variables		Dependent Variables	
		Proportion of Problems Accompanied by Doctor's Visit	
		CHRONIC	ACUTE
DEMOGRAPHICS	Age	.11**	.06
	Sex	.13***	.01
	Marital Status	.07	-.04
	SES	.03	-.07
	White vs. Other	.02	.08
	Family income	.02	-.01
HEALTH STATUS	Number chronic problems	-.06	—
	Number acute problems . .	—	.05
	Self rated health	-.24***	.03
	Restricted days	.06	.21***
SOCIAL NETWORKS	Size	-.01	-.00
	Consultation	.00	.04
	Contact	-.11*	.02
	Support	.01	.00
	Advice	.09*	.19***
<u>R</u>		.37	.36
R ² (% Variance Explained)		.13	.13

* p < .05

** p < .01

*** p < .001

NOTE: Statistics reported are standardized
coefficients (beta's)

THE LATTER TWO FINDINGS, OF COURSE, ARE CONSISTENT WITH SOCIAL NETWORK THEORY.

THE REGRESSION ANALYSES FOR THE UTILIZATION MEASURE BASED ON ACUTE ILLNESSES ALSO UNCOVERED A SIGNIFICANT RELATIONSHIP BETWEEN NETWORK ADVICE AND UTILIZATION,

(.19). THERE WAS A SIMILAR SIGNIFICANT FINDING WITH RESTRICTED ACTIVITY DAYS

(.21). THE OTHER NETWORK VARIABLES, HOWEVER, FAILED TO MAKE A SIGNIFICANT CONTRIBUTION TO THIS EQUATION, AS DID ALL SOCIODEMOGRAPHIC AND HEALTH STATUS VARIABLES EXCEPT NUMBER OF RESTRICTED ACTIVITY DAYS.

SUMMARY AND DISCUSSION

AS A GROUP, THESE REGRESSION ANALYSES PROVIDE FURTHER SUPPORT FOR RON ANDERSON AND LUANN ADAY'S HYPOTHESIS THAT SOCIAL NETWORK ADVICE MAY BE MORE IMPORTANT THAN THE STRUCTURE OR FORM OF THE NETWORK IN PREDICTING USE OF HEALTH SERVICES. IN EACH CASE, BOTH ACUTE AND CHRONIC CONDITIONS, WE FOUND THAT NETWORK ADVICE CONTRIBUTED SIGNIFICANTLY TO THE PREDICTION EQUATION, WHILE IN ONLY ONE CASE DID ANY NETWORK DESCRIPTOR ENTER THE EQUATIONS -- THAT BEING THE ASSOCIATION BETWEEN CONTACT AND GREATER UTILIZATION FOR CHRONIC ILLNESS. THUS, OUR DATA DO SEEM TO INDICATE THAT NETWORK ADVICE IS A BETTER PREDICTOR OF UTILIZATION THAN ARE THE NETWORK DESCRIPTORS.

IT SHOULD BE NOTED, HOWEVER, THAT THE MAGNITUDE OF THE EFFECTS ASSOCIATED WITH ALL NETWORK VARIABLES WERE RELATIVELY MODEST. FOR EXAMPLE, IN PREDICTING USE OF SERVICES FOR CHRONIC ILLNESSES, THE COMBINED EFFECTS OF ALL NETWORK VARIABLES INCREASED THE R^2 FROM 11% TO 13%, WHILE THE PREDICTION OF USE BASED ON ACUTE ILLNESS SHOWED AN IMPROVEMENT IN THE R^2 FROM 9% TO 13%, AFTER THE SOCIAL NETWORK VARIABLES WERE CONSIDERED.

ONE POSSIBLE EXPLANATION FOR THE MODEST SIZE OF THESE EFFECTS IS MEASUREMENT ERROR. PERHAPS IMPROVEMENTS IN THE CONCEPTUALIZATION AND MEASUREMENT OF ONE'S SOCIAL NETWORK WILL SIGNIFICANTLY IMPROVE THE CORRELATIONS BETWEEN SOCIAL NETWORK AND UTILIZATION MEASURES. OUR MEASURE OF NETWORK ADVICE, FOR EXAMPLE, WAS VERY CRUDE. AS INDICATED EARLIER, WE ASKED FOR THE USUAL OR MOST COMMON TYPE OF ADVICE RECEIVED FROM FAMILY AND FRIENDS. IT IS POSSIBLE THAT A MEASURE OF NETWORK ADVICE SPECIFIC TO A PARTICULAR CONDITION WOULD SHOW A HIGHER CORRELATION WITH USE OF HEALTH SERVICES FOR THAT SAME CONDITON. A SIMILAR IMPROVEMENT HAS BEEN ACHIEVED, FOR EXAMPLE, IN ATTITUDE BEHAVIOR RESEARCH -- WHERE ATTITUDES SPECIFIC TO A BEHAVIORAL CRITERION HAVE BEEN FOUND TO BE BETTER PREDICTORS THAN MEASURES OF MORE GENERAL ATTITUDES.

PARENTHETICALLY, WE SHOULD MENTION THAT THE LOS ANGELES HEALTH SURVEY WAS SPECIFICALLY DESIGNED TO EXAMINE THIS ISSUE IN GREATER DETAIL. THUS, IN OUR PANEL STUDY, RESPONDENTS REPORTING A NEW HEALTH PROBLEM WERE ASKED ABOUT THEIR SOCIAL NETWORK INTERACTIONS CONCERNING THIS CONDITION, INCLUDING TYPE OF ADVICE RECEIVED. HOPEFULLY, THESE DATA WILL PROVIDE A CLEARER PICTURE OF THE IMPACT OF SOCIAL NETWORK ADVICE ON HEALTH SERVICES UTILIZATION SINCE WE WILL BE ABLE TO LINK SPECIFIC NETWORK ADVICE WITH THE PARTICULAR CONDITION THAT PRECIPITATED THE ADVICE.

WE SHOULD ALSO NOTE, IN CONCLUSION, THAT NETWORK ADVICE SEEMED TO PREDICT USE OF HEALTH SERVICES FOR ACUTE CONDITIONS BETTER THAN FOR CHRONIC CONDITIONS. ONE MIGHT SPECULATE THAT THIS DIFFERENCE OCCURS BECAUSE OF THE VERY NATURE OF ACUTE AND CHRONIC HEALTH PROBLEMS. FOR EXAMPLE, LET US ASSUME FOR THE MOMENT THAT OUR DATA ARE CORRECT IN SUGGESTING THAT NETWORKS INFLUENCE USE OF HEALTH SERVICES THROUGH THE ADVICE THAT THEY CONVEY. GIVEN THIS ASSUMPTION, THE INFLUENCE OF SOCIAL NETWORK ON USE OF HEALTH SERVICES SHOULD BE AFFECTED BY THE INDIVIDUAL'S LEVEL OF KNOWLEDGE AND EXPERIENCE WITH THE HEALTH PROBLEM. THUS, FOR EXAMPLE, IF THE INDIVIDUAL IS RELATIVELY INEXPERIENCED IN DEALING WITH A PARTICULAR-PROBLEM (WHICH IS MOST LIKELY TO OCCUR WITH ACUTE CONDITION OR NEWLY DEVELOPED CHRONIC CONDITIONS), THEN THE ADVICE FROM SOCIAL NETWORKS WILL PROBABLY BE CONSIDERED MORE SERIOUSLY. IF, ON THE OTHER HAND, THE INDIVIDUAL IS EXPERIENCED AND KNOWLEDGEABLE IN COPING WITH THE PROBLEM, AND ALSO FEELS CONFIDENT IN THIS REGARD, THEN NETWORK ADVICE SHOULD BE LESS INFLUENTIAL. FURTHER TESTS OF THIS HYPOTHESIS WILL OCCUR AS THE PANEL DATA BECAME AVAILABLE FOR ANALYSIS FROM THE LOS ANGELES HEALTH STUDY.

REFERENCES

- Aday, L.A. and R. Anderson
1975 A Framework for the Study of Access to Medical Care, Rol. Ward Johnson Foundation, Unpublished, University of Chicago.
- Bott, Elizabeth
1957 Family and Social Network, London: Tavistock.
- Fischer, Claude S.
1977 Networks and Places, New York: Free Press.
- Friedson, E.
1961 Patients' View of Medical Practice, New York Russell Sage Foundation.
- Granovetter, Mark S.
1974 Getting a Job: A Study of Contacts and Careers, Cambridge, Mass.: Harvard University Press.
- Granovetter, M.S.
1973 "The Strength of Weak Ties", American Journal of Sociology, 78:6, 1360-1380, May.
- Laumann, Edward O. and Franz U. Pappi
1976 Networks of Collective Action, New York: Academic Press.
- Liu, W.T. and R.W. Duff
1972 "The Strength of Weak Ties", Public Opinion Quarterly, 36:3, 361-366, Fall.
- McKinlay, John B.
1972 "Some approaches and problems in the study of the use of services: an overview", Journal of Health and Social Behavior, 13:115.
- Mitchell, J. Clyde (Ed.)
1969 Social Networks in Urban Situations, Manchester: Manchester University Press.
- Salloway, Jeffrey C. and P. Dillan
1973 "A comparison of family networks and friend networks in health care utilization" Journal of Comparative Family Studies, 131-142.
- Sussman, M.B.
1974 "The Isolated Nuclear Family: Fact or Fiction", Sourcebook in Marriage and the Family, Sussman, M. ed., Boston, Houghton Mifflin, 25-30.